

Claims:

1. A metal air electrochemical cell comprising:
a base structure having
one or more anode receiving structures supported therein, said anode-receiving structure including an air cathode having air access;
a sealing/connection structure including an anode connection terminal on a side thereof corresponding to an open end of the anode receiving structure,
wherein the air cathode in the base structure is electrically connected to the anode connection terminal with a connection allowing the sealing/connection structure to be partially or completely displaced from the base structure, and
at least one anode card for insertion into the anode receiving structure,
wherein the cell is placed into a discharging mode by closing the sealing/connection structure such that the anode connection terminal electrically connects the anode card.
2. The metal air electrochemical cell as in claim 1, wherein the anode receiving structure is formed so as to maintain a quantity of liquid electrolyte, wherein said sealing/connection structure connects to said base structure for both electrical connection and for sealing.
3. The metal air electrochemical cell as in claim 2, comprising a plurality of anode receiving structures, wherein a plurality of anode supporting cards are supported by an anode support structure.

4. The metal air electrochemical cell as in claim 3, wherein the anode support structure forms a gasket between the base and the top cover.
5. The metal air electrochemical cell as in claim 4 wherein the gasket prevents liquid from accessing the connection between the anode card and the anode connection terminal.
6. The metal air electrochemical cell as in claim 1, wherein the anode card includes a contiguous end positioned as an electrical contact point with the anode connection terminal in the discharging mode.
7. The metal air electrochemical cell as in claim 6, wherein the anode card comprises magnesium or magnesium alloys.
8. The metal air electrochemical cell as in claim 1, wherein the anode card includes an anode current collector as an electrical contact point with the anode connection terminal in the discharging mode.
9. The metal air electrochemical cell as in claim 8, wherein the anode card comprises zinc or zinc alloys.
10. The metal air electrochemical cell as in claim 1, wherein the connection allowing the sealing/connection structure to be displaced from the base structure comprises a

flexible electrical connection, and further wherein the base structure and the sealing/connection structure are connected by a hinge structure.

11. The metal air electrochemical cell as in claim 1, wherein the connection allowing the sealing/connection structure to be displaced from the base structure comprises a removable electrical connection.
12. The metal air electrochemical cell as in claim 1, wherein the sealing/connection structure includes a locking mechanism corresponding to a receiving structure on the base structure.
13. The metal air electrochemical cell as in claim 12, wherein the locking mechanism comprises a latch corresponding to a receiving structure comprising a protrusion.
14. The metal air electrochemical cell as in claim 12, wherein the locking mechanism comprises a spring lever corresponding to a receiving structure comprising a slot or aperture.
15. The metal air electrochemical cell as in claim 1, wherein the base structure includes a locking mechanism corresponding to a receiving structure on the sealing/connection structure.

16. The metal air electrochemical cell as in claim 15, wherein the locking mechanism comprises a latch corresponding to a receiving structure comprising a protrusion.
17. The metal air electrochemical cell as in claim 15, wherein the locking mechanism comprises a spring lever corresponding to a receiving structure comprising a slot or aperture.
18. The metal air electrochemical cell as in claim 1, the base structure including apertures for allowing air to access the air cathode.
19. The metal air electrochemical cell as in claim 1, wherein the anode connection terminal comprises a flexible conductor supported by the sealing/connection structure.
20. A method of operating a metal air electrical cell system comprising
inserting an anode card into an anode receiving structure within a base, the anode receiving structure having an air cathode integral therein accessing air;
placing a top cover having an anode terminal and a flexible electrical connection with the air cathode over the base so as to electrically connect the anode terminal and the anode card, and to mechanically secure the anode card;
discharging the anode to a desired level of discharge (e.g., until output drops below a certain voltage level).
21. The method of claim 20, further comprising removing the cover from the base thereby releasing electrical contact with the anode.